City of Rockville Environment Commission

Sustainable Development and Energy Committee (SDEC)

Meeting Minutes
Tuesday, August 16, 2011
Diamondback Terrapin Room, City Hall
7:00 pm

1. **Welcome / Agenda Review**
   - In attendance: Rotraut Bockstahler, John Becker, Herb Winkler, Lea Rosenbohm, Clark Reed, Steve Cardon, Devinie Rukshani Lye (via phone), Brian Toll (representative from Ecobeco) and staff liaison Erica Shingara.

2. **Environment Commission Report**
   - The Commission toured the Montgomery County Transfer Center on August 9 to see the recycling sorting operations.
   - Commissioners will tour Fitzgerald Collision Center the first week of September to evaluate the facility for an Environmental Excellence Award.
   - The Commission's strategic planning retreat will be on October 15.

3. **Environmental Management Division Report**
   - The Rockville Chamber of Commerce will host a green building tax credit discussion on September 13.
   - Staff attended training for the new International Green Construction Code (IgCC) and will be evaluating the code for use as an option for greening commercial building codes. Information on the new IgCC: www.iccsafe.org/cs/IGCC/Pages/Brochures.aspx
   - August is the end of the reporting period for this year's Green Power Community Challenge. EPA will announce the national results at the end of September.

4. **Solar Residential Roundtable Discussion**
   - Questions and discussion focused on residential solar systems with the goal of compiling information to aid Rockville homeowners. Solar homeowners Clark Reed (1-kW system) and Herb Winkler (4.3-kW system) and contractor Brian Toll (Ecobeco) described their solar experiences and answered questions.
   - Housing suitability
     - Southern facing roof is best; tilt equal to latitude (about 39 degrees); the roof should be relatively new and good condition so panels can last 25 years; adequate space with no shading from trees, chimneys, dormers, etc. Websites can provide a free preliminary solar assessment.
   - Technology (home options include photovoltaic (PV) and solar thermal)
     - Solar thermal captures the sun's heat and distributes it to the home. This is typically used to heat domestic hot water supply. An antifreeze solution flows through collectors, the solution is pumped to a heat exchanger, where the heat is transferred to the domestic water supply and stored in an insulated storage

tank. Thermal solar is more efficient (up to 70%). It is less expensive to install, but has more maintenance.
  - Photovoltaic (PV) systems convert sunlight to electricity. Systems produce direct current (DC) electricity and an inverter converts the power to alternating current (AC) to power household items. With net metering, the excess electricity can be sold back to the grid. Without a battery storage system (which adds costs), electricity is not available when the grid is down.
  - PV cells come in three types: mono-crystalline, poly-crystalline, or amorphous (thin-film which can adhere to some roofing materials). Panels are available in different colors.
  - Building integrated PVs (such as shingles) serve as both construction materials and PV, but are more expensive.
  - PV efficiency differs by manufacturer and panel type. Ranges are from 10 to 18% and decrease over time.
- Costs/ROI/Financing/Incentives
  - Before investing in solar, it is important to maximize home energy efficiency. A quick energy efficiency assessment is available at the Home Energy Yardstick: www.energystar.gov/index.cfm?fuseaction=home_energy_yardstick.showGetStarted
  - PV systems average about $12 per installed watt. A complete system may range between $20,000 and $50,000.
  - Payback depends on the price of electricity, the value of SRECs, and available government incentives. There are Federal tax credits (30%), Maryland Clean Energy Production Tax Credit ($0.85 per kWh produced), and SRECs available. Montgomery County currently has a backlog on tax credit applications.
  - The Maryland Public Service Commission allows PV homeowners to sell their solar renewable energy credits (SRECs). A SREC is created when a solar system generates 1,000 kilowatt hours of power. Utilities and corporations purchase these credits either to offset their emissions or to help meet the requirements of regulators. The value of SRECs vary. The maximum SREC value is $400/MWh and will decrease over time.
    http://webapp.psc.state.md.us/intranet/ElectricInfo/home_new.cfm
  - Solar leasing options are gaining popularity because they reduce or eliminate the large upfront cost of solar installations. A third party installs, owns and maintains the panels and the homeowner leases the benefits for a lower monthly cost. The lease guarantees performance. If you sell your house, you can buy out the lease or the next homeowner may qualify for the lease. MD leasing companies include Sungevity and Solar City. Ecobeco described the new Sungevity leasing option: http://www.ecobeco.com/solar.asp
  - Pooling customers for wholesale pricing may also be an option to decrease upfront costs.
- Finding qualified vendors and installation considerations
  - Solar PV installers can be certified by the North American Board of Certified Energy Practitioners (NABCEP).
  - The Maryland Clean Energy Center maintains a directory of contractors.
  - Installations require permits (building and electrical) from the City and may also require HOA approval.
  - Historic structure may have limitations for solar installations.

- Operations and maintenance
  - PV systems are virtually maintenance free (snow removal if desired).
  - Solar thermal has some maintenance requirements.
- Resources: *Several links were referenced during the discussion as sources for additional information (but not an endorsement). It was also noted that online cost and payback estimates may not be realistic, especially if they consider RECs which may reduce in value in the future.*
  - A Solar Panel on Every Roof: http://e360.yale.edu/feature/a_solar_panel_on_every_roof_in_us_still_a_distant_dream/2434/
  - One Block Off the Grid: http://1bog.org/user/profile/?view=campaign_details
  - Solar Estimates: www.solarestimate.org
  - Maryland Clean Energy Center: http://mdcleanenergy.org/using_clean_energy/solar
  - DOE: http://apps1.eere.energy.gov/buildings/publications/pdfs/building_america/41085.pdf
- Future steps: brochure and web information.

5. Member News / Announcements / Upcoming Events

- The Maryland Municipal League and the University of Maryland are offering a "Green Group" training to support the Sustainable Maryland Certified program on Saturday, September 24 from 1-4 p.m. Members interested in participating may contact Erica Shingara.
- Free Residential Energy Audit Seminar on September 21, 2011 at 7 p.m. at the Croydon Creek Nature Center.
- Free Residential Composting Seminar on October 19, 2011 at 7 p.m. at the Croydon Creek Nature Center.
- Montgomery County will launch a new residential rebate program on August 25th that will provide incentives for comprehensive home energy improvements using the Maryland Home Performance with ENERGY STAR program. (http://www.mcenergyfunding.com/)

6. Wrap-up and Adjourn

The next SDEC meeting is tentatively scheduled for **Tuesday, September 20, 2011** at Rockville City Hall. However, the City's free Energy Audit seminar is on September 21. Members were asked to email Erica Shingara if they would like to meet on September 20 or attend the energy audit seminar in lieu of a meeting. The meeting was adjourned at approximately 8:15 pm.